REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 1-18 are now present in this application. Claims 1 and 10 are independent. Claims 1-6, 8, 10-13, 15 and 17-18 have been amended.

Reconsideration of this application, as amended, is respectfully requested.

I. Priority Under 35 U.S.C. § 119

Applicants thank the Examiner for acknowledging Applicants' claim for foreign priority under 35 U.S.C. § 119, and receipt of the certified priority document.

II. Drawings

The Office Action indicates that the drawings are accepted by the Examiner. Since no objection has been received, Applicant assumes that the drawings are acceptable and that no further action is necessary. If such is not the case, please advise the Applicants in the next Office Action.

III.   Claim Objection and Rejection under 35 U.S.C. § 112, 2nd

Paragraph

The Examiner has objected to claim 3 and rejected claim 3 under 35 U.S.C. § 112, 2nd Paragraph. This rejection is respectfully traversed.

The Examiner notes that the expression "the added function M(f)" on line 4 of claim 3 lacks antecedent basis. To address this objection and rejection, Applicants have amended claim 3 to depend from claim 2. Accordingly, reconsideration and withdrawal of this objection and rejection are respectfully requested.

IV.   Allowable Subject Matter

The Examiner states that claims 4-7, 9, 11-14 and 16-18 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims. Applicants thank the Examiner for the indication of allowable subject matter in this application.

V.   Rejections under 35 U.S.C. §103

Claims 1, 3, 8 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yuen (U.S. Patent No. 5,949,914). Claims 2 and 10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yuen in view of

Pattie (U.S. Patent No. 5,696,848). These rejections are respectfully traversed.

Applicants' independent claims 1 and 10 recite respective combinations of method steps in accordance with the present invention. Each of the methods relates to a filtering control method for improving the image quality of a bi-linear interpolated image when recovering a high resolution image from a low resolution image. The filtering control methods include the step of restoring a requested high resolution image f by finding an added filter coefficient Q of a PSF(P) and a bi-linear interpolation filter B from an equation $f=Pg=PBz=Qz$, wherein f is the high resolution image, P is the PSF (Point Spread Function), g is the high resolution image found by the bi-linear interpolation method, and z is the low resolution image.

The filtering control method according to the present invention is capable of improving the image quality of a bi-linear interpolated image when recovering a high-resolution image from a low resolution image. The present invention does so by finding the added filter coefficient Q of the PSF(P) and the bi-linear interpolation filter B from the equation $f=Pg=PBz=Qz$. It is respectfully submitted that the prior art of record fails to show or suggest such a combination of method steps as recited in Applicants' independent claims 1 and 10.

Yuen teaches that bi-linear interpolation can be used to restore a high-resolution image by interpolating the pixel value. However, Yuen does not teach or suggest the combination of method steps recited in Applicants' independent

claims 1 and 10. For example, Yuen fails to show or suggest finding an added filter coefficient Q of a PSF(P). Further, Yuen fails to show or suggest finding a bi-linear interpolation filter B from an equation f=Pg=PBz=Qz.

Although Yuen does show a method of enhancing the resolution of multi-spectral image data, it cannot be fairly said that Yuen shows or suggests any method for improving the image quality of a bi-linear interpolated image as claimed. Particularly, Yuen fails to show or suggest recovering a high resolution image from a low resolution image by finding an added filter coefficient Q of a PSF(P) and a bi-linear interpolation filter B from the equation f=Pg=PBz=Qz, as recited in Applicants' independent claims 1 and 10.

Pattie has been cited as a teaching reference. The Examiner asserts that Pattie discloses a method of restoring a high resolution image with the consideration of noise as a factor in the equation in generating the high resolution image. Particularly, the Examiner cited column 15, lines 51-57 of Pattie.

It is respectfully submitted that Pattie fails to cure the deficiencies of the Yuen reference as discussed above. Particularly, Pattie is not capable of advantageously improving the image quality of a bi-linear interpolated image, when recovering a high resolution image from a low resolution image. Particularly, Pattie fails to show or suggest finding an added filter coefficient Q of a PSF(P) and a bi-linear interpolation B from the equation f=Pg=PBz=Qz, as

recited in Applicants' independent claims 1 and 10. As such, it is respectfully submitted that the combination of Yuen and Pattie fails to show or suggest the present invention.

Dependent claims 2-9 and 11-18 should be considered allowable for at least the reasons as discussed above with respect to independent claims 1 and 10.

In view of the above remarks, reconsideration and withdrawal of these rejections are respectfully requested.

VI. Additional Cited References

Since the remaining references cited by the Examiner have not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment need be made with respect thereto.

VII. Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the

outstanding Office Action, and as such, the present application is in condition for allowance.
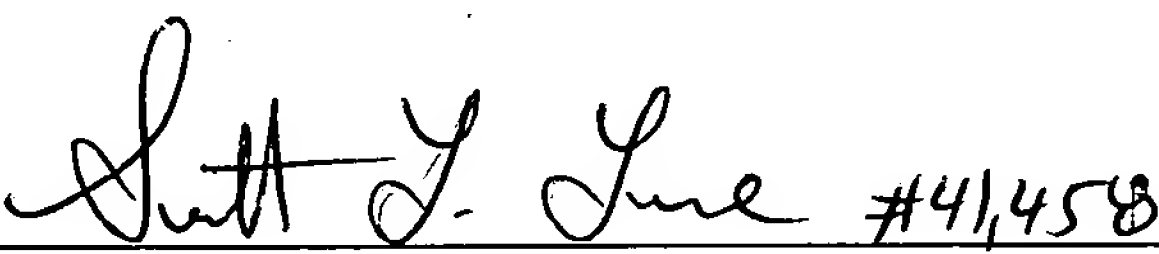
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone James T. Eller, Jr., Registration No. 39,538, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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